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AUTHOR Cowden, Joey
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ABSTRACT

Guidelines are presented to special educators and adapted physical educators for assessing the psychomotor development of severely handicapped students. The importance of determining whether there is an abnormality in central nervous system development is emphasized. Assessment information is presented for 15 topic areas: reflex analysis, muscle tone, associated reactions ("overflow" reactions from one movement to another), functional mobility, analysis of gait, developmental gross motor patterns, developmental fine motor proficiency, sensory strengths and weaknesses, developmental play levels, levels of competition, game readiness, cardiovascular/health fitness, leisure/recreation skills, lifetime sports and social intelligence-self concept. The need for ongoing observation in each of these categories is pointed out. (CL)

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PSYCHOMOTOR ASSESSMENT OF THE SEVERELY HANDICAPPED INDIVIDUAL

Joey Cowden, Ph D.
Assistant Professor of Adapted Physical Education
University of New Orleans, Lakefront
Department of Health and Physical Education
New Orleans, LA 70148

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PSYCHOMOTOR ASSESSMENT OF THE SEVERELY HANDICAPPED INDIVIDUAL

Assessment of the severely handicapped individual provides a tremendous challenge for the special educator and the physical educator. Evaluation instruments are simply not adequate due to the variability of functional movement. Even with specific disabilities the educator must evaluate the individual considering the unique characteristics of each person. The process must be continuous and the educator must be able to differentiate problem areas for appropriate remediation.

The purpose of this paper is to present a brief theoretical basis for assessment and provide specific psychomotor categories for functional assessment. The educator must learn to "look at the individual" and assess needs without totally depending on test instruments. In my opinion, no single instrument currently exists which has the components to fully evaluate severely handicapped individuals in the psychomotor domain.

Before examining the categories for psychomotor assessment, several basic principles of CNS functioning should be analyzed. It is very important that the adapted physical educator or special education teacher understand the difference in the needs of children who are "developmentally delayed" vs. having "abnormal motor development." Sherrill (1981) gives the following definition:

> "Developmentally delayed children are those who fail to demonstrate normal cognitive and psychomotor patterns of growth. They are slower in development and many function motorically like infants and toddlers for several years. Other handicapped children, particularly those with cerebral palsy or brain damage, exhibit abnormal motor development."

An individual with central nervous system dysfunction can improve in psychomotor skills, however, certain pathological reflex activity and abnormal muscle tone will always be present.

Teachers must begin to have an understanding of neuroanatomy and basic CNS functioning. Over 50% of congenital defects and malformations found in humans

involve the nervous system (Brown, 1980). From birth we are activated by sensory input. A normal nervous system can respond to the bombardment of afferent stimuli. However, an individual with CNS dysfunction has difficulty coping with these demands. Fiorentino (1972) stated:

> "Though the nervous system has retained its ability to respond, the afferent inflow is short-circuited into the synaptic chains of the few typical, widespread, abnormal sensorimotor patterns of movement. Thus, motor dysfunction in movement seen in the cerebral palsied child is not a result of paralysis of muscles, but to abnormal coordination, to abnormal patterning of muscles, throughout the affected parts."

Norton (1976) characterized the central nervous system as a series of "interacting functional units with a continual interplay among units and nuclei at different structural levels." If a unit is not functioning properly due to a lesion, the interrelation of units at all structural levels are disorganized. Educators must have knowledge regarding appropriate neurological stimulation, contraindications for positioning, and activities which may inhibit or utilize certain pathological reflexes if the severely handicapped are to attain skill development and functional remediation.

To provide a program of activities for the severely handicapped proper assessment is mandatory. Consideration must be also given to age and long range goals such as functional mobility and independent living skills. The following categories are offered to assist the professional with appropriate skill analysis.

1. Reflex Analysis

Assessment of spinal cord, brain stem and midbrain reflexes is necessary to assist the individual with attaining mobility (rolling, creeping, walking) and balance (sitting, upright posture and protective reactions). The Milani-Comparetti Developmental Chart (Sherrill, 1981, 120) and Mary Fiorentino, Reflex Testing Methods for Evaluating CNS Development should be utilized

for reference. It is naive for teachers to plan programs for the severely involved, especially the nonambulatory without an understanding of the primitive reflexes and postural analysis. Educators must be able to teach the cerebral palsied individual how to cope and/or utilize such reflexes.

2. Muscle Tone

Analysis of muscle tone and changes in muscle tone is a number one factor for assessment of the severely handicapped. The teacher should consider the following: normal tone, hypertonus, hypotonus, fluctuating tonus, abnormal flexibility and lack of strength. Finney (1974) has established "key points" that one must understand when positioning and handling children with CNS dysfunction. She emphasized:

> "While learning to observe the child's abnormally co-ordinated patterns of posture and movement and their effect on the whole child, you must become sensitive to the varying changes of muscle tone under your hands, being able to feel the difference, for example, between an arm that feels stiff and resists movement, and one that feels light and therefore can be moved actively by the child."

3. Associated Reactions

Many individuals are inable to isolate movement patterns. They experience "overflow" reactions from one movement to another. It may be necessary for the teacher to assist the individual in order to prevent such reactions.

Other categories to consider in evaluation are more obvious and an outline form seems appropriate for concise understanding.

4. Functional Mobility

5. Analysis of Gait (Sherrill, 1981, p. 136)

Wide Base, high guard arm position

Abduction - external rotation

Adduction - internal rotation

Flat-footed

Tip-toe gait

Scissors gait

Shuffling gait

Cerebellar gait

Hemiplegic gait

Steppage gait

Waddling gait

Rigidity of upper torso

7. Developmental Gross Motor Patterns

8. Developmental Fine Motor Proficiency

Hand function

Manipulative skills

9. Sensory Strengths and Weaknesses

Visual

Auditory

Kinesthetic

Vestibular

Tactile

10. Developmental Levels of Play (Sherrill, 1981, p. 71)

Practice play

Onlooker, solitary play

Symbolic play

Parallel play - plays independently

Associative play - interactive

Rule play - cooperative

shares

knows role in game

competitive play

11. Levels of Competition (Sherrill, 1981, p. 72)

    Self

    Individual - dual

    Team

12. Game Readiness (Sherrill, 1981, p. 61)

    Responds to name

    Follows simple directions

    Imitates

13. Cardiovascular/Health Fitness

14. Leisure/Recreation Skills

15. Lifetime Sports

16. Social Intelligence - Self Concept

Observational data from each of the categories will give the teacher a clear picture of need with recognition for individual differences. It should be remembered that the process of assessment should be continuous and ongoing as goals and objectives are accomplished.

Many tests are available from which content-referenced, criterion referenced and norm referenced data may be obtained. Jansma (1980) recently performed a collective analysis of selected tests and that article should be referred to for an in-depth understanding of available tests.

Each severely handicapped individual is unique and accurate assessment is difficult. Educators should conceptualize that the main long range goal is for the individual to have functional living skills and motor competencies that enable him/her to work or engage in leisure time sport and activities.

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